



United States Environmental Protection Agency  
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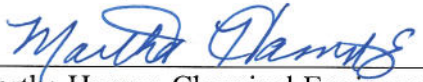
**NEICVP0944E01**

**MULTIMEDIA COMPLIANCE INVESTIGATION**

ABC Coke  
Tarrant, Alabama  
NEIC Project No.: VP0944

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NEIC

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## APPENDICES (*\*NEIC-created documents*)

### General Appendices

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### Clean Air Act Appendices

CAA A   \*NEIC CAA Photographs (53 pages)  
CAA B   \*NEIC Laboratory Report (16 pages)  
CAA C   ABC Coke LDAR Monitoring List of Components 2008, 2009, 2010 (21 pages)  
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CAA F   ABC Coke TAB Report (8 pages)  
CAA G   ABC Coke Ammonia Still Flowrates (80 pages)  
CAA H   \* NEIC Table of ABC Component Counts for 2008, 2009, and 2010 (2 pages)  
CAA I   ABC Coke Title V Permit (78 pages)  
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### Resource Conservation and Recovery Act Appendices

RCRA A   \*NEIC RCRA Photographs (29 pages)  
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RCRA C   Material Safety Data Sheet for Parts Washer Solvent (11 pages)  
RCRA D   Manifests and Applicable Land Disposal Restriction Notifications (10 pages)  
RCRA E   Coke Oven Gas Condensate Knock Out Pot Drawing (1 page)  
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**This Contents page shows all of the sections contained in this report  
and provides a clear indication of the end of this report.**

## INTRODUCTION

At the request of U.S. Environmental Protection Agency (EPA) Region 4, EPA's National Enforcement Investigations Center (NEIC) conducted a focused multimedia (Clean Air Act [CAA] and Resource Conservation and Recovery Act [RCRA]) compliance investigation of the ABC Coke coke/utilities plant in Tarrant, Alabama. The primary focus of the NEIC investigation was ABC Coke's coke by-products recovery plant. NEIC conducted the on-site inspection May 4 through 10, 2011. ABC Coke's production operations and associated waste streams are subject to major environmental statutes, including the Clean Water Act (CWA), RCRA, CAA, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Its operations also are subject to the requirements of environmental permits and regulations administered by the EPA, the Alabama Department of Environmental Management (ADEM), and the Jefferson County Department of Health (JCDH).

NEIC also prepared a written process description located in **Appendix A**, which provides a detailed overview of ABC Coke's production areas, waste generation, and treatment facilities. Photographs taken during the on-site inspection are included in **Appendix CAA A** and **Appendix RCRA A**.

## FACILITY BACKGROUND

ABC Coke is a merchant foundry coke producer. ABC Coke employs approximately 375 people and operates continuously (365 days a year, 7 days a week, 24 hours a day) to manufacture coke from coal.

ABC Coke operates three coke oven batteries (battery Nos. 1, 5, and 6). The Wilputte design battery (battery No. 1) has 78 five-meter ovens and produces 75 percent of the total coke produced by ABC Coke. The two Becker design batteries (battery Nos. 5 and 6) have 54 four-meter ovens and produce 25 percent of the total coke produced by ABC Coke. Coal is placed in the coke batteries, in the absence of air, at a coking temperature of approximately 2,100 degrees Fahrenheit (°F). The coal breaks down in this destructive distillation process, creating coke oven gas (hydrogen, volatile material, etc.) and coke (primarily carbon). The volatile products from the coal and coal tar derivatives are recovered and separated in the coke by-products recovery plant. ABC Coke primarily produces foundry coke but also makes furnace coke. Foundry coke is typically 6 inches by 9 inches in size and is used in foundry cupolas. Furnace coke is typically 1 inch by 3 inches in size and is used in blast furnaces. At the time of the on-site inspection, ABC Coke was scheduled to "push" (i.e., remove coke from) 76 ovens per day, with a coking time of approximately 26 hours per oven. Each Wilputte oven produces about 21 tons of coke per push, and each Becker oven produces about 12 tons of coke per push.

## ON-SITE INSPECTION SUMMARY

NEIC conducted the on-site inspection May 4 through 10, 2011. EPA Region 4, ADEM, and JCDH inspectors also participated in and/or observed the on-site inspection. During the opening conference, credentials were presented to Mark Poling, ABC Coke environmental manager. Throughout the inspection, ABC Coke representatives presented process information on raw materials, products, by-products, and wastes for the coke by-product recovery plant. NEIC inspectors also reviewed records/documents; conducted a visual inspection of the facility; and interviewed plant personnel. At the conclusion of the on-site inspection, an exit meeting was held to discuss preliminary findings. NEIC personnel stated that final determinations would be made in conjunction with EPA Region 4 and state personnel.

### Clean Air Act

During the CAA portion of the investigation, NEIC evaluated ABC Coke's compliance with 40 Code of Federal Regulations (CFR) Part 61 Subparts FF – National Emission Standard for Benzene Waste Operations (BWON) and L – National Emission Standards for Benzene Emissions from Coke By-Product Recovery Plants, including leak detection and repair (LDAR) provisions. NEIC also evaluated portions of ABC Coke's CAA Title V permit requirements (permit No. 4-07-0001-02 issued November 17, 2008, expiring November 17, 2013) as applicable to BWON, 40 CFR 61 Subpart L, and LDAR.

During the NEIC on-site inspection, a total of approximately 283 components (including some hatches and seals) were monitored using toxic vapor analyzers (TVAs) following EPA Method 21(40 CFR Part 60, Appendix A-7) to determine compliance with 40 CFR 61 Subpart L, Subpart V –National Emission Standards for Equipment Leaks (Fugitive Emission sources), and/or JCDH LDAR requirements.

NEIC inspectors conducted BWON sampling over the course of three days. The NEIC laboratory in Denver, Colorado, analyzed benzene waste samples that were collected from 11 locations at the facility. **Appendix CAA B** contains the NEIC laboratory report. The following locations were sampled:

- West dirty liquor storage tank
- Ammonia still effluent
- East tar decanter sludge
- Primary cooler sump
- Dirty water sump
- Naphthalene sump
- Cast drip pot between saturator and tar bottom final cooler
- Thickener – top layer
- Thickener – lower layer
- Liquor storage containment sump

- Benzene, toluene, xylene (BTX) tank overflow

### **Resource Conservation and Recovery Act**

During the NEIC on-site inspection, the following areas associated with the RCRA inspection were visually inspected: parts washers located in the mechanics shop, the container building, and the electricians shop; used oil generation and storage areas located in the container building; and universal waste storage areas located at the storeroom.

Prior to the NEIC on-site inspection, ABC Coke (EPA ID No. AL0000823179) had determined that the facility does not generate any hazardous waste (**Appendix RCRA B**). ABC Coke generates spent solvent approximately four times a year. NEIC reviewed documentation for the off-site shipments of spent solvents (January, May, June, September 2010 and February 2011). In the months when the spent solvent is generated, ABC Coke is considered a small quantity generator of hazardous waste and is required to meet all small quantity generator requirements contained in applicable permits and regulations.

## SUMMARY OF FINDINGS

Findings identified by NEIC during the ABC Coke investigation are summarized in the evidence table. These findings are linked to specific supporting documents that can be found in individual appendices to this table. The following investigative findings were identified during the multimedia investigation of ABC Coke. These findings can be categorized as either areas of noncompliance or areas of concern. Areas of concern are inspection observations of potential problems or activities that could impact the environment, result in future or current noncompliance, and/or are areas associated with pollution prevention.

#	Regulatory Citation	Findings/Observations	Evidence
	<b>CLEAN AIR ACT (CAA)</b>		
	<b>Areas of Noncompliance – CAA</b>		
	<b>40 CFR 61 Subpart L – National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants</b>		
1.	<p><b>40 CFR § 61.135(c)</b> – <i>Each piece of equipment in benzene service to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment in benzene service.</i></p> <p><b>40 CFR § 61.135(a)</b> – <i>Each owner or operator of equipment in benzene service shall comply with the requirements of 40 CFR 61, subpart V...</i></p> <p><b>40 CFR § 61.131 – Definitions</b> – <i>“In benzene service” means a piece of equipment, other than an exhaustor, that either contains or contacts a fluid (liquid or gas) that is at least 10 percent benzene by weight...</i></p>	<p>ABC Coke has not marked each piece of equipment in benzene service in such a manner that it can be distinguished readily from other pieces of equipment in benzene service. NEIC identified four equipment tag numbers that were on two different pieces of equipment. The duplicate tag numbers are: V6453, V6454, V6455, and V6459. All duplicate tags were located in the BTX storage tank area.</p> <p>ABC Coke has not marked all equipment in benzene service. While conducting field monitoring, NEIC identified nine valves and two pressure relief devices that were not marked. The equipment was in the following locations:</p> <ul style="list-style-type: none"> <li>• 1 valve next to tag 6474</li> <li>• 2 control valves near tag 7006</li> <li>• 1 valve on east light oil storage tank vent line</li> <li>• 1 valve on west light oil storage tank</li> <li>• 1 control valve near tag 6358</li> <li>• 3 valves on light oil meter</li> <li>• 2 pressure relief valves on light oil storage tanks</li> </ul> <p><b>Observations</b></p> <p>NEIC observed and noted the missing tags while conducting LDAR monitoring.</p>	<b>Appendix CAA A – NEIC CAA Photographs, Photograph 40</b>
2.	<b>40 CFR § 61.132 (b)</b> – <i>Following the</i>	ABC Coke does not monitor and visually inspect all connections and seals on	<b>Appendix CAA C –</b>



#	Regulatory Citation	Findings/Observations	Evidence
	<p><i>installation of any control equipment used to meet the requirements of paragraph (a) of this section, the owner or operator shall monitor the connections and seals on each control system to determine if it is operating with no detectable emissions, using Method 21... and the procedures specified in §61.245(c), and shall visually inspect each source (including sealing materials) and the ductwork of the control system for evidence of visible defects such as gaps and tears. This monitoring and inspection shall be conducted on a semiannual basis and at any other time after the control system is repressurized with blanketing gas following removal of the cover or opening of the access hatch.</i></p>	<p>each process vessel and on the tar storage tanks. Access hatches and flanges on top of the east tar decanter, west tar decanter, and flushing liquor circulation tank are not included in the monitoring and inspection program at ABC Coke. According to Bill Osborn, ABC Coke environmental coordinator, access hatches and sealing materials on the primary cooler sump (tar-intercepting sump) are also not included in the monitoring and inspection program at ABC Coke.</p> <p>Also during the on-site inspection, NEIC observed elevated TVA readings on the tar decanters, flushing liquor circulation tank, BTX tank (light oil decanter), primary cooler sump (tar-intercepting sump), and tar storage tanks; therefore, this equipment was not operating with no detectable emissions. (See <b>AOC A</b> for the list of elevated TVA readings.)</p>	<p><b>ABC Coke LDAR Monitoring List of Components 2008, 2009, 2010</b></p>
3.	<p><b>40 CFR § 61.133(a)</b> – <i>Each owner or operator of a light-oil sump shall enclose and seal the liquid surface in the sump to form a closed system to contain the emissions.</i></p> <p><b>40 CFR § 61.133(c)</b> – <i>Following the installation of any control equipment used to meet the requirements of paragraph (a) of this section, the owner or operator shall monitor the connections and seals on each control system to determine if it is operating with no detectable emissions, using Method 21... and the procedures specified in §61.245(c), and shall visually inspect each source (including sealing materials) for evidence of visible defects such as gaps and tears. This monitoring and inspection shall be conducted semiannually and at any other time the cover is removed.</i></p>	<p>ABC Coke has two light oil sumps: the naphthalene sump and dirty water sump. These two sumps have not been included in ABC Coke’s semiannual monitoring and inspections.</p> <p>During the on-site investigation, NEIC observed elevated TVA readings above 500 parts per million (ppm) total volatile organic compounds (VOC) at both the naphthalene sump and dirty water sump; therefore, these sumps were not operating with no detectable emissions. Using the FLIR GasFindIR infrared camera, NEIC also recorded visual emissions of hydrocarbons at the dirty water sump.</p>	<p><b>Appendix CAA C – ABC Coke LDAR Monitoring List of Components 2008, 2009, 2010</b></p> <p><b>Appendix CAA A – NEIC CAA Photographs, Photographs 31, 32, 41, 42, 43, and 53</b></p> <p><b>Appendix CAA D – NEIC FLIR Videos VID0000.wmv, VID0001.wmv, and VID0004.wmv.</b></p>
4.	<p><b>40 CFR § 61.242-6(a)(1)</b> – <i>Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve...</i><b>(2)</b> <i>The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.</i></p>	<p>NEIC inspectors identified a total of 34 open-ended lines at ABC Coke. The open-ended lines include missing plugs and lines containing open vents without a cap on a section of pipe. The open-ended lines are listed below with an associated area of the plant:</p> <ul style="list-style-type: none"> <li>• 1 plug missing near tag 6495 in BTX storage area</li> <li>• 1 plug missing near tag 6480 in BTX storage area</li> </ul>	<p><b>Appendix CAA A – NEIC CAA Photographs 35, 36, 37, 50, 55, 60, 63, 64, 66, 67, 79, and 80.</b></p>

#	Regulatory Citation	Findings/Observations	Evidence
	<p><b>JCDH Rules and Regulations – 8.26.7 Open Ended Valves.</b></p> <p><i>(a) Each open-ended valve shall be equipped with a cap, blind flange, plug, or a second valve, except during operations requiring fluid flow through the open-ended valve.</i></p> <p><i>(b) Each open ended valve equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.</i></p> <p><i>(c) Open-ended valves which serve as a sampling connection shall be equipped with a closed vent system such that:</i></p> <p><i>(1) Purged process fluid be returned to the process line with zero VOC emissions to atmosphere, or</i></p> <p><i>(2) Collect and recycle the purged process fluid with zero VOC emissions to atmosphere.</i></p>	<ul style="list-style-type: none"> <li>• 1 plug missing near tag 6476 in BTX storage area</li> <li>• 1 open vent near tag 6624 on top of BTX separator</li> <li>• 1 open vent on outlet vent line for the primary cooler sump</li> <li>• 1 plug missing near tag 1966 on tar decanter</li> <li>• 2 open vents on top of flushing liquor circulation tank</li> <li>• 1 plug missing in pump station area (ground level, north of tar storage tanks) of tar storage tanks</li> <li>• 1 plug missing near tag 2102 on tar storage tanks</li> <li>• 24 plugs missing on exhauster seal pots</li> </ul> <p><b>Observations</b></p> <p>NEIC observed and noted the missing plugs while conducting LDAR monitoring.</p>	
5.	<p><b>40 CFR § 61.132(b)(3)</b> – <i>When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.</i></p> <p><b>40 CFR § 61.132(b)(4)</b> – <i>A first attempt at repair of any leak or visible defect shall be made no later than 5 calendar days after each leak is detected.</i></p> <p><b>JCDH Rules and Regulations – 8.26.5 Valves in Gas and Light Liquid Service.</b></p> <p><i>(c) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.</i></p>	<p>The ABC Coke 4<sup>th</sup> quarter 2008 monitoring records show that a leak of greater than 10,000 ppm was found on component V1942 on December 9, 2008. No first or final repair dates are listed for this component. This component was also not included on the second semiannual 2008 report as a leaking component.</p> <p>The ABC Coke 3<sup>rd</sup> quarter 2010 monitoring records show that two leaks of greater than 10,000 ppm were found on components V1937 and V1982 on August 10, 2010. The first attempt at repair and final repair were made on September 20, 2010, for both components, which is later than 5 calendar days after the leak was detected and later than 15 calendar days after the leak was detected, respectively.</p>	<p><b>Appendix CAA E – ABC Coke LDAR Monitoring and Repair Records – 4<sup>th</sup> Quarter 2008 and 3<sup>rd</sup> Quarter 2010</b></p>
	<b>40 CFR 61 Subpart FF – National Emission Standard for Benzene Waste Operations (BWON)</b>		
6.	<p><b>40 CFR § 61.355(a)</b> – <i>An owner or operator shall determine the total annual benzene quantity from facility waste by the following procedure:</i></p> <p><i>(b) For purposes of the calculation required by paragraph (a) of this section, an owner or</i></p>	<p>Based on the operation of the coke by products plant, ABC Coke cannot determine the total annual benzene (TAB) quantity only at the exit of the ammonia still. NEIC identified additional streams that are required to be included in the TAB quantity calculation:</p> <ul style="list-style-type: none"> <li>• Liquor/tar from tar decanters into an open funnel (<b>Appendix CAA A, Photographs 68 and 69</b>)</li> </ul>	<p><b>Appendix CAA A – NEIC CAA Photographs</b></p> <p><b>Appendix CAA B – NEIC Laboratory Report</b></p>



#	Regulatory Citation	Findings/Observations	Evidence
	<p><i>operator shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in paragraphs (b)(1), (2), (3), and (4) of this section, by one of the methods given in paragraphs (b)(5) through (7) of this section.</i></p> <p><i>(b)(2) The determination of annual waste quantity for wastes at coke by-product plants subject to and complying with the control requirements of §61.132, 61.133, 61.134 or 61.139 of subpart L of this part shall be made at the location that the waste stream exits the process unit component or waste management unit controlled by that subpart or at the exit of the ammonia still, provided that the following conditions are met: (i) The transfer of wastes between units complying with the control requirements of subpart L of this part, process units, and the ammonia still is made through hard piping or other enclosed system. (ii) The ammonia still meets the definition of a sour water stripper in §61.341.</i></p>	<ul style="list-style-type: none"> <li>• Material from two seal pots to primary cooler sump (<b>Appendix CAA A, Photographs 79 and 80</b>)</li> <li>• Tar and excess liquor from the flushing liquor circulation tank to primary cooler sump</li> <li>• Water from the water seal on the gas holder</li> <li>• Condensate from nine drip pots</li> <li>• Aqueous decant from BTX tank (<b>Appendix CAA A, Photograph 44</b>)</li> <li>• Drained material from the purifier into the naphthalene sump</li> <li>• Material from liquor drains on light oil platform</li> </ul> <p>Each of these streams drain into units that NEIC identified as not meeting the control requirements in 40 CFR § 61.132 or are not hard-piped or otherwise enclosed prior to their entry into the ammonia stills.</p> <p>All of these streams eventually feed into the ammonia stills.</p> <p><b>Observations</b></p> <p>Photographs, videos, and TVA readings demonstrate that these streams or sumps that receive these streams are open to the atmosphere. Because the streams are not completely enclosed prior to their entry into the ammonia stills, they therefore are not in compliance with 40 CFR Part 61 Subpart L.</p>	<p><b>Appendix CAA D – NEIC FLIR Camera Videos VID0002.wmv and VID0003.wmv</b></p> <p><b>Appendix CAA F – ABC Coke TAB Report</b></p>
7.	<p><b>40 CFR § 61.355(a)</b> – An owner or operator shall determine the total annual benzene quantity from facility waste by the following procedure:</p> <p><i>(b) For purposes of the calculation required by paragraph (a) of this section, an owner or operator shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in paragraphs (b)(1), (2), (3), and (4) of this section, by one of the methods given in paragraphs (b)(5) through (7) of this section.</i></p> <p><i>(b)(2) The determination of annual waste quantity for wastes at coke by-product plants subject to and complying with the control requirements of §61.132, 61.133, 61.134 or 61.139 of subpart L of this part shall be made at the location that the waste stream exits the process unit component or waste</i></p>	<p>ABC Coke has decided to calculate its TAB quantity at the exit of its ammonia stills under 40 CFR § 61.355(b). In order to use this option, ABC Coke needs to comply with multiple requirements in 40 CFR Part 61 Subpart L, including requirements under 40 CFR § 61.132. Method 21 monitoring on the seals and connections of the closed vent system on the tar-intercepting sumps, tar decanters, flushing-liquor circulation tank was being conducted using the incorrect leak detection limit of 10,000 ppm instead of 500 ppm as required under 40 CFR § 61.132(b). ABC Coke personnel also do not monitor any seals on openings or hatches for these same units as part of their monitoring.</p> <p>To be able to calculate the TAB quantity at the exit of the ammonia still, 40 CFR § 61.355(b)(2)(i) also requires the transfer of wastes between units and the ammonia still to be made through hard piping or other enclosed system. ABC Coke has two locations, at each of the tar decanters, where liquid waste leaves the unit and enters an open funnel (<b>Appendix CAA A, Photographs 58 and 59</b>). The east tar decanter funnel ties into the west tar decanter funnel. Once the liquid is in the funnel, it travels to the primary cooler sump. According to ABC Coke personnel, there is no water seal between the open funnel and the primary cooler sump, which allows vapors from the primary cooler sump to escape from the funnel to the atmosphere.</p>	<p><b>Appendix CAA A – NEIC CAA Photographs</b></p> <p><b>Appendix CAA D – NEIC FLIR Camera Videos VID0002.wmv and VID0003.wmv</b></p>

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	<i>management unit controlled by that subpart or at the exit of the ammonia still, provided that the following conditions are met: (i) The transfer of wastes between units complying with the control requirements of subpart L of this part, process units, and the ammonia still is made through hard piping or other enclosed system. (ii) The ammonia still meets the definition of a sour water stripper in §61.341.</i>	In addition, NEIC inspectors also observed the aqueous decant stream from the BTX tank also overflowing into an open funnel ( <b>Appendix CAA A, Photograph 44</b> ). NEIC monitored each of those locations with TVAs and recorded elevated hydrocarbon readings. Using the FLIR GasFindIR camera, NEIC also was able to record and observe vapor streams.	
8.	<b>40 CFR § 61.355(a)(4)</b> – <i>If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr), the owner or operator shall: (i) Comply with the recordkeeping requirements of §61.356 and reporting requirements of §61.357 of this subpart; and (ii) Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.</i>	<p>ABC Coke has an uncontrolled TAB quantity greater than 1 megagram (Mg) and potentially more than 10 Mg (<b>See AOC F</b>).</p> <p>In May 1990, ABC Coke reported that its calculated TAB quantity was 0.00136 Mg/yr.</p> <p>ABC Coke has not recalculated its TAB quantity annually since its TAB submittal in May 1990.</p> <p><b><u>Observations</u></b></p> <p>ABC Coke only measures flow rate at the inlet to the ammonia still. Therefore no flow information exists at most of the locations NEIC sampled.</p> <p>The BTX tank overflow was an open uncontrolled stream flowing into a funnel. (<b>Appendix CAA A, Photograph 44</b>). According to NEIC analytical results, this stream contains an average benzene concentration of 1,323.3 ppm. Using a conservative flow estimate of 3 gallons per minute (gpm), this open stream has an annual uncontrolled benzene quantity of 7.9 Mg/yr.</p> <p>The sludge leaving the tar decanters is an open uncontrolled stream flowing into a roll-off bin (<b>Appendix CAA A, Photograph 25</b>). According to NEIC analytical results, this stream contains an average benzene concentration of 432.3 milligrams per kilogram (mg/kg). According to ABC Coke, approximately 2,800 pounds of sludge is generated per day. Using this data, this stream has an annual uncontrolled benzene quantity of 0.2 Mg.</p> <p>Thus, from just these two streams, the uncontrolled benzene quantity is 8.1 Mg/yr.</p> <p>ABC Coke mixes uncontrolled streams with controlled streams into the ammonia still. NEIC estimated a potential TAB quantity using the concentration and the flow of material into the ammonia still.</p> <p>During the on-site inspection, ABC Coke personnel stated that the average</p>	<p><b>Appendix CAA F – ABC Coke TAB Report</b></p> <p><b>Appendix CAA A - NEIC CAA Photographs</b></p> <p><b>Appendix CAA G – ABC Coke Ammonia Still Flowrates</b></p>

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		<p>flow through the ammonia stills is 180 gpm. Based on flow rate data provided by ABC, the annual average flow was 182 gpm in calendar year 2008, 166 gpm in 2009, and 151 gpm in 2010.</p> <p>Using a maximum flow rate of 182 gpm and a benzene concentration of 33.7 ppm (average benzene concentration of west dirty liquor storage tank from NEIC sampling), the potential TAB quantity is 12.2 Mg/yr.</p>	
	<b>Jefferson County Department of Health, Air Pollution Control Rules and Regulations Section 8.26 – Leaks from Coke By-Products Recovery Plant Equipment</b>		
9.	<p><b>8.26.5 (a)</b> <i>Each valve in gas and light liquid service shall be monitored each calendar quarter to detect leaks by the methods specified in Reference Method 21, except as provided in Paragraph 8.26.5(d)</i></p> <p><b>8.26.4 (a)</b> <i>Each pump in light liquid service shall be monitored each calendar quarter to detect leaks by the methods specified in Reference Method 21.</i></p>	<p>During most quarters from 2008 through 2010, ABC Coke did not monitor each valve and/or pump. ABC Coke missed monitoring a total of 216 valves and 3 pumps.</p> <p><u><b>Observations</b></u></p> <p>Only valves that were not identified as difficult to monitor are listed below.</p> <p>1<sup>st</sup> quarter 2008: Valve(s) that were not monitored: V6683. <b>Total = 1 missed valve</b></p> <p>2<sup>nd</sup> quarter 2008: Missing monitoring pages: 13, 19, 20, and 21. Using component counts from these pages in 1<sup>st</sup> quarter 2008, 135 valves were not monitored. Other valves that were not monitored are: V1999, V2000, V2001, V7022, and 6495. <b>Total = 140 missed valves</b></p> <p>Also one pump was missed in 2<sup>nd</sup> quarter 2008: P6496. <b>Total = 1 missed pump</b></p> <p>3<sup>rd</sup> quarter 2008: Valve(s) that were not monitored: 1821, V1963, V1964, V7022, and V6683. <b>Total = 5 missed valves</b></p> <p>4<sup>th</sup> quarter 2008: Valve(s) that were not monitored: 1109, 1211, and V6683. <b>Total = 3 missed valves</b></p> <p>1<sup>st</sup> quarter 2009: Valve(s) that were not monitored: 1821, V6681, V6682, V6683, and V7022. <b>Total = 5 missed valves</b></p> <p>2<sup>nd</sup> quarter 2009: Missing monitoring page 2. Using component count from previous quarter, 19 valves were not monitored. Other valves that were not monitored are: 1821, V6495, V6683, V1963, V1964, V1999, V2000, V2001, and V7022. <b>Total = 28 missed valves</b></p> <p>Also, one pump was missed in 2<sup>nd</sup> quarter 2009: P6496. <b>Total = 1 missed pump</b></p>	<p><b>Appendix CAA H – NEIC Table of ABC Component Counts for 2008, 2009, and 2010</b></p> <p><b>Appendix CAA I – ABC Coke Title V Permit</b></p> <p><b>Appendix CAA J – JCDH Rules and Regulations 8.26 and 8.27</b></p>

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#	Regulatory Citation	Findings/Observations	Evidence
		<p>3<sup>rd</sup> quarter 2009: Valve(s) that were not monitored: V6683 <b>Total = 1 missed valve</b></p> <p>4th quarter 2009: Valve(s) that were not monitored: V6683 <b>Total = 1 missed valve</b></p> <p>1<sup>st</sup> quarter 2010: Missing monitoring page 2. Using component count from previous quarter, 19 valves were not monitored. Other valves that were not monitored are: 1204A, 1217, 1226, 1227, 1228, 1229, 1230 and 6495. <b>Total = 27 missed valves.</b></p> <p>Also, one pump was missed in 1<sup>st</sup> quarter 2010: P6496. <b>Total = 1 missed pump</b></p> <p>2<sup>nd</sup> quarter 2010: Valve(s) that were not monitored: 1122, 1204A, 1216D, 1228, 1229, and 1230. <b>Total = 6 missed valves.</b></p>	
	<b>Areas of Concern – CAA</b>		
A.		<p>NEIC identified a greater number of elevated VOC readings during on-site TVA monitoring than has been found by ABC Coke in the last three years. On Friday, May 6 and/or Monday, May 9, 2011, using a TVA, NEIC inspectors observed 26 elevated readings. The following equipment had elevated TVA readings:</p> <ol style="list-style-type: none"> <li>1. Small round hatch on west tar decanter – 515 ppm</li> <li>2. Small round hatch on east tar decanter – 40,000 ppm</li> <li>3. Flushing liquor circulation tank PRV, tag 1943 – 2,300 ppm</li> <li>4. East tar storage tank, tag 1923 – 17,000 ppm</li> <li>5. West tar storage tank, tag 1945 (flange prior to PRV) – flameout (&gt;10,000 ppm)</li> <li>6. East tar storage tank, top sample tap/tar level funnel – 2,600 ppm</li> <li>7. Dirty liquor tank PRV – 580 ppm</li> <li>8. Dirty liquor tank rupture disk – 720 ppm</li> <li>9. Dirty liquor tank 1<sup>st</sup> trycock closest to ground – 5,000 ppm</li> <li>10. Dirty liquor tank 2<sup>nd</sup> trycock from ground – 1,300 ppm</li> <li>11. Seal pot exhauster drain, plug missing, tag 1119B – 1,500 ppm</li> <li>12. Seal pot exhauster drain, plug missing, tag 1118B – 50,000 ppm</li> <li>13. Seal pot exhauster drain, plug missing, tag 1116B – 1,100 ppm</li> <li>14. Seal pot exhauster drain, plug missing, tag 1117B – 5,000 ppm</li> <li>15. BTX storage tank area, tag 6480 – &gt;40,000 ppm</li> <li>16. Visual leak and TVA reading on pipe near sump with groundwater – 1,700 ppm</li> <li>17. Naphthalene sump, pump structure – 2,600 ppm</li> </ol>	<p><b>Appendix CAA C – ABC Coke LDAR Monitoring List of Components 2008, 2009, 2010</b></p> <p><b>Appendix CAA K – ABC Coke 2008 Semiannual Report Monitoring Summary Sheets</b></p>

#	Regulatory Citation	Findings/Observations	Evidence												
		<div>18. Naphthalene sump, middle east side of sump – 900 ppm</div> <div>19. Naphthalene sump, cap on flange on top of sump – 1,000 ppm</div> <div>20. BTX tank funnel – 14,000 ppm</div> <div>21. West tar decanter, open drain below sample taps, ground level – 1,200 ppm</div> <div>22. Dirty water sump, near pump structure – flameout (&gt; 10,000 ppm)</div> <div>23. Dirty water sump, seal on south side of sump – 1,700 ppm</div> <div>24. Dirty water sump, seal on south side of sump – 4,500 ppm</div> <div>25. Primary cooler sump, rounded hatch leaking near bolts – 550 ppm</div> <div>26. Primary cooler sump, along seam on North side of sump – 800 ppm</div> <div>According to ABC Coke personnel, if a leak is found, ABC Coke personnel document the leak and notify ABC Coke by-products area personnel to repair the leak.</div> <div>NEIC reviewed ABC Coke’s semiannual reports and actual Method 21 monitoring data from 2008 to 2010. NEIC then compared the number of equipment leaks reported by ABC Coke on its semiannual reports to the number of equipment leaks recorded in ABC Coke’s list of Method 21 monitoring components.</div> <table><tr><th>Year</th><th>ABC Coke-reported leaks on semi-annual reports</th><th>NEIC count of ABC Coke leaks on monitoring records</th></tr><tr><td>2008</td><td>0</td><td>1</td></tr><tr><td>2009</td><td>3</td><td>3</td></tr><tr><td>2010</td><td>4</td><td>4</td></tr></table> <div>ABC recorded an instrument reading of greater than 500 ppm in the closed vent control system on component V1942 during 3<sup>rd</sup> quarter 2008. However, based on review of ABC Coke’s 2008 semiannual reports, no leaks were reported in 2008 by ABC Coke.</div> <div><b>Observations</b></div> <div>NEIC observed and noted the elevated TVA readings while conducting LDAR monitoring.</div>	Year	ABC Coke-reported leaks on semi-annual reports	NEIC count of ABC Coke leaks on monitoring records	2008	0	1	2009	3	3	2010	4	4	
Year	ABC Coke-reported leaks on semi-annual reports	NEIC count of ABC Coke leaks on monitoring records													
2008	0	1													
2009	3	3													
2010	4	4													
B.	<b>40 CFR § 61.132(a)(1)</b> – <i>Each owner or operator of a furnace or a foundry coke byproduct recovery plant shall enclose and seal all openings on each process vessel, tar storage tank, and tar-intercepting sump. (2) The owner or operator shall duct gases from each process vessel, tar storage tank, and</i>	ABC Coke uses a natural gas blanketing system on the following process vessels and tar storage tanks: two tar decanters, a flushing liquor circulation tank, a primary cooler sump (tar-intercepting sump), and two tar storage tanks. ABC Coke routes vapors from the following process vessels into the coke oven gas suction main: a crude residual column (light oil condenser), a BTX tank (light oil decanter), a wash-oil decanter, and a pump tank (wash-oil circulation tank). ABC Coke also routes vapors to the coke oven gas suction													

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#	Regulatory Citation	Findings/Observations	Evidence
	<p><i>tar-intercepting sump to the gas collection system, gas distribution system, or other enclosed point in the by-product recovery process where the benzene in the gas will be recovered or destroyed...This system can be designed as a closed, positive pressure, gas blanketing system.</i></p> <p><b>40 CFR § 61.131 – Definitions</b> – “Process vessel” means each tar decanter, flushing-liquor circulation tank, light-oil condenser, light-oil decanter, wash-oil decanter or wash-oil circulation tank.</p>	<p>main from the two light oil storage tanks and process water tank (flushing liquor circulation tank).</p> <p>Piping on liquid drains from the east and west tar decanters and the BTX tank is not totally enclosed where the liquid material is routed to the sewer system. These openings allow vapors from the sewer system and vapors coming off the liquid stream to be emitted to the atmosphere.</p>	
<b>C.</b>	<p><b>40 CFR § 61.246 (b)</b> – When each leak is detected as specified in ..., the following requirements apply: (1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.</p>	<p>Bill Osborn, ABC Coke, stated that leak tags are not used to identify equipment with detectable leaks. Bill Osborn stated that he notifies coke by-product personnel at ABC Coke to repair the leak. ABC Coke has found leaking components during Method 21 monitoring in the past three years. ABC Coke personnel did not place leak tags on any of the equipment that NEIC found to be leaking on May 6 and/or May 9, 2011.</p>	
<b>D.</b>	<p><b>40 CFR § 61.132 (b)</b> – Following the installation of any control equipment used to meet the requirements of paragraph (a) of this section, the owner or operator...shall visually inspect each source (including sealing materials) and the ductwork of the control system for evidence of visible defects such as gaps and tears. This monitoring and inspection shall be conducted on a semiannual basis and at any other time after the control system is repressurized with blanketing gas following removal of the cover or opening of the access hatch.</p>	<p>ABC Coke performs monthly, quarterly, semiannual, and annual Method 21 monitoring as required by 40 CFR 61 Subparts L and V. ABC Coke personnel indicated that they also perform semiannual visual inspections of each source (including sealing materials) and the ductwork of the control system for evidence of visible defects such as gaps and tears. ABC Coke does not keep separate records for the visual monitoring. ABC Coke’s Bill Osborn stated that any visual defects identified would be documented in the comments section on the Method 21 screening records. The monitoring records for the past three years do not appear to have any notations regarding visual defects. During the on-site inspection, NEIC observed sealing material defects on the naphthalene sump, dirty water sump, and primary cooler sump.</p>	<p><b>Appendix CAA A – NEIC CAA Photographs, Photographs 41, 42, 43, 53, 56, 57</b></p>
<b>E.</b>	<p><b>40 CFR § 61.341 – Definitions</b> – “Sour water stream” means a stream that : (1) Contains ammonia or sulfur compounds (usually hydrogen sulfide) at concentrations of 10 ppm by weight or more; (2) Is generated from separation of water from a feed stock, intermediate, or product that contained ammonia or sulfur compounds; and (3) Requires treatment to remove the ammonia or sulfur compounds.</p>	<p>Not all the streams that enter into units that feed the ammonia still meet the definition of a sour water stream. These streams include storm water collected in the liquor storage containment area, dirty water sump discharge, and naphthalene sump discharge. Wastewaters in the dirty water and naphthalene sumps originate from the BTX purification process.</p>	
<b>F.</b>	<p><b>40 CFR § 61.342(b)</b> Each owner or operator of a facility at which the total annual</p>	<p>ABC Coke may have a TAB quantity greater than 10 Mg/yr, which would require additional controls, recordkeeping, and reporting requirements.</p>	<p><b>Appendix CAA B – NEIC Laboratory</b></p>



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#	Regulatory Citation	Findings/Observations	Evidence
	<i>benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall be in compliance with the requirements of paragraphs (c) through (h) of this section no later than 90 days following the effective date...</i>	<p><b><u>Observations</u></b></p> <p>Because ABC Coke does not have flow monitors for most of its uncontrolled benzene streams, NEIC cannot calculate all individual stream contributions to ABC Coke's TAB quantity. NEIC calculated an estimated TAB quantity at the location where the uncontrolled streams and controlled streams are mixed together.</p> <p>ABC Coke mixes uncontrolled streams with controlled streams into the ammonia still. NEIC estimated a potential TAB quantity using the concentration and the flow of material into the ammonia still.</p> <p>During the NEIC inspection, ABC Coke personnel stated that the average flow through the ammonia stills is 180 gpm. Based on analytical data provided by ABC, the annual average flow was 182 gpm in calendar year 2008, 166 gpm in 2009, and 151 gpm in 2010. NEIC analytical results on the west dirty liquor storage tank (feed tank to the ammonia still) show an average benzene concentration of 33.5 ppm.</p> <p>Using a maximum flow rate of 182 gpm and a benzene concentration of 33.5 ppm, the potential TAB quantity may be as high as is 12.14 Mg/yr.</p>	<p><b>Report</b></p> <p><b>Appendix CAA G – ABC Coke Ammonia Still Flowrates</b></p> <p><b>Appendix CAA L – NEIC Benzene NESHAP Sample Locations</b></p>
<b>G.</b>		<p>ABC Coke has a liquor storage containment sump that is open to the atmosphere (<b>Appendix CAA A, Photographs 73 and 99</b>). According to ABC Coke, this sump only collects storm water from the storage tank areas.</p> <p>NEIC analytical results show that this sump has an average benzene concentration of 15.7 ppm. This concentration indicates that this sump may be collecting additional benzene-containing waste streams. In addition, excess benzene emissions may be released from this uncontrolled sump.</p>	<p><b>Appendix CAA A – NEIC CAA Photographs</b></p> <p><b>Appendix CAA B – NEIC Laboratory Report</b></p>
<b>H</b>		<p>ABC Coke did not annually monitor components that were identified as difficult to monitor (DTM). In 2008, ABC Coke did not monitor 55 valves that were identified as DTM. In 2009, ABC Coke did not monitor 72 valves that were identified as DTM. In 2010, ABC Coke did not monitor at least 35 valves that were identified as DTM.</p> <p>ABC Coke did not identify which regulation(s) under which each of the valves is covered. All valves are subject to the requirements of Jefferson County Board of Health, Air Pollution Control Rules and Regulations Section 8.26.5. Some valves might also be subject to the requirements of 40 CFR Part 61 Subpart V, as referenced by 40 CFR Part 61 Subpart L.</p> <p>If the DTM valves are subject to the requirements of 40 CFR Part 61 Subpart V, they must be monitored annually. If the DTM valves are only subject to the requirements of Jefferson County Board of Health, Air Pollution Control Rules</p>	<p><b>Appendix CAA H – NEIC Table of ABC Component Counts for 2008, 2009, and 2010</b></p>

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#	Regulatory Citation	Findings/Observations	Evidence
		<p>and Regulations Section 8.26.5, they do not need to be monitored.</p> <p>If DTM valves are not monitored, any leaks would remain undetected and excess VOC emissions would be released to the atmosphere.</p> <p><b><u>Observations</u></b></p> <p>In 3<sup>rd</sup> quarter 2010, ABC Coke did not print the DTM column on some of its monitoring sheets. It appears that items that were identified as DTM in previous quarters were monitored during the third quarter; however, valves that had not been monitored in 2008 and 2009 were monitored.</p>	
<b>I</b>		<p>ABC Coke monitored components that had previously been identified as demolished, indicating that the units were not really demolished or that inaccurate readings were recorded for these components.</p> <p><b><u>Observations</u></b></p> <p>Since 1<sup>st</sup> quarter 2008, component 1608 has been identified as “West Demoed WOS block valve vent.” However, monitoring was conducted on this valve in 1<sup>st</sup> quarter 2008, 2<sup>nd</sup> quarter 2008, 3<sup>rd</sup> quarter 2008, 4<sup>th</sup> quarter 2008, 1<sup>st</sup> quarter 2009, 3<sup>rd</sup> quarter 2009, and 4<sup>th</sup> quarter 2009.</p> <p>Since 1<sup>st</sup> quarter 2008, components 1510, 1512, and 1513 were identified as demoed. However these three components were monitored each quarter in 2008 and 2009.</p> <p>In 3<sup>rd</sup> and 4<sup>th</sup> quarters 2010, ABC Coke monitored component 1235, which was identified as demolished in 1<sup>st</sup> and 2<sup>nd</sup> quarters 2010.</p> <p>In 3<sup>rd</sup> quarter 2010, ABC Coke monitored component 1571, which was identified as demolished in 1<sup>st</sup> quarter 2010. Component 1571 was not monitored in 2<sup>nd</sup> or 4<sup>th</sup> quarter 2010, but also was not identified as demolished in those quarters.</p> <p>In 3<sup>rd</sup> quarter and 4<sup>th</sup> quarters 2010, valves V6681, V6682, and V6683 were monitored. In 2<sup>nd</sup> quarter 2010, these three valves were identified as demolished.</p>	
	<b>RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)</b>		

#	Regulatory Citation	Findings/Observations	Evidence
	<b>Areas of Noncompliance – RCRA</b>		
1.	<b>335-14-3-.01(2) [40 CFR § 262.11]</b> – <i>A person who generates a solid waste, as defined in 335-14-2-.01(2), must determine if that waste is hazardous waste using the following method...</i>	<p>ABC Coke did not complete a waste determination on the following waste streams:</p> <ul style="list-style-type: none"> <li>- Spent parts washer solvent</li> <li>- Aerosol cans</li> <li>- Crushed fluorescent light bulbs</li> <li>- Used lead acid batteries</li> <li>- Coke oven gas condensate</li> </ul> <p><b><u>Observations</u></b></p> <p>ABC Coke handles spent parts washer solvent as an EPA hazardous waste number D039 characteristic hazardous waste, but made an improper waste determination. ABC Coke failed to determine other waste codes that would apply to the waste. ABC Coke operates three parts washers located throughout the facility. ABC Coke was asked to provide the material safety data sheet (MSDS) for the parts washer solvent used on-site. The provided MSDS shows the parts washer solvent contains xylene and methanol (both in concentrations above 10 percent) so that when the solvent is spent, it is a listed hazardous waste (EPA hazardous waste number F003). The MSDS also shows that the solvent's flash point is 54 °F, which makes the spent solvent an ignitable characteristic hazardous waste (EPA hazardous waste number D001). Manifests, prepared by ABC Coke's purchasing department, for shipping spent solvent off-site only list EPA hazardous waste number D039 (toxicity characteristic for tetrachloroethylene), which is not contained on the MSDS for the parts washer solvent used at ABC Coke. The ABC Coke environmental department was unaware that the spent parts washer solvent was being shipped off-site as a hazardous waste until NEIC requested all of the documentation available on the purchasing and handling of the parts washer solvent.</p> <p>Materials contained in aerosol cans are used throughout the facility. Aerosol cans are disposed in the general refuse. Aerosol cans that are not depressurized exhibit the RCRA hazardous waste characteristic of ignitability (EPA hazardous waste number D001). The contents of the aerosol cans may also exhibit a RCRA hazardous waste characteristic, which would make a non-empty can hazardous waste.</p> <p>ABC Coke crushes fluorescent light bulbs and disposes the crushed material in the general refuse. Fluorescent light bulbs contain mercury and when crushed can exhibit the RCRA hazardous waste characteristic of toxicity for mercury (EPA hazardous waste number D009).</p>	<b>Appendix RCRA C –</b> Material Safety Data Sheet for Parts Washer Solvent

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#	Regulatory Citation	Findings/Observations	Evidence
		<p>Used lead acid batteries are collected and stored at the storeroom. Three lead acid batteries were damaged or missing caps. Lead acid batteries can exhibit the RCRA hazardous waste characteristic of toxicity for lead (EPA hazardous waste number D008).</p> <p>Coke oven gas condensate is collected in at least six knockout pots. The coke oven gas condensate can contain benzene in amounts higher than the toxicity characteristic leaching procedure (TCLP) hazardous waste characteristic level of 0.5 ppm.</p>	
2.	<p><b>335-14-2-.01(5)(c) [40 CFR § 261.5(c)]</b> – <i>When making the quantity determinations of 335-14-2-.01 and 335-14-3, the generator must include all hazardous waste that it generates...</i></p>	<p>When making the hazardous waste generator quantity determinations, ABC Coke did not include all hazardous waste it generates, including spent parts washer solvent. Documentation (<b>Appendix RCRA D</b>) provided by ABC Coke shows that 45 gallons of spent parts washer solvent are removed from service and disposed of as a characteristic hazardous waste. The MSDS for the parts washer solvent lists the density as 6.91 pounds/gallon. Based on this information, ABC Coke is generating 311 pounds (141 kilograms) of hazardous waste each month the parts washer solvent is removed and replaced. This generation amount makes the facility a small quantity generator.</p>	<p><b>Interviews</b></p> <p><b>Appendix RCRA C – Material Safety Data for Parts Washer Solvent</b></p> <p><b>Appendix RCRA D – Manifests and Applicable Land Disposal Restriction Notifications</b></p>
3.	<p><b>335-14-3-.03(5)(d)6.(iii)</b> – <i>Employees must complete an initial training program in hazardous waste management within six months after the date of their employment or assignment to a new position, whichever is later. Employees must not work in unsupervised positions until they have completed the training requirements of 335-14-6-.02(7)(b).</i></p> <p><i>(I) The training program must be designed to ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal site operations and emergencies</i></p> <p><b>40 CFR § 262.34(d)(5)(iii)</b> – <i>The generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies.</i></p>	<p>ABC Coke does not train employees regarding the proper waste handling and emergency procedures relevant to their responsibilities. No RCRA training is provided to any ABC Coke employee.</p>	<p><b>Interviews</b></p>
4.	<p><b>335-14-3-.03(5)(d)6.(iii)(III)</b> – <i>The</i></p>	<p>ABC Coke does not have a written description of the training required for</p>	<p><b>Interviews</b></p>

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#	Regulatory Citation	Findings/Observations	Evidence
	<i>generator must maintain on-site a written description of the training required under 335-14-3-.03(5)(d)6.(iii).</i>	employees regarding the proper waste handling and emergency procedures relevant to their responsibilities.	
5.	<p><b>335-14-3-.02(1)(a)</b> – A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal, or a treatment, storage, and disposal facility who offers for transportation a rejected hazardous waste load, must prepare a Manifest (OMB control number 2050-0039) on EPA Form 8700-22, and, if necessary, EPA Form 8700-22A, according to the instructions in 335-14-3-Appendix I.</p> <p><b>40 CFR § 262.20(a)(1)</b> – A generator who transports, or offers for transport a hazardous waste for off-site treatment, storage, or disposal, or a treatment, storage, and disposal facility who offers for transport a rejected hazardous waste load, must prepare a Manifest...according to the instructions included in the appendix to this part.</p>	<p>ABC Coke is not entering the applicable hazardous waste numbers for spent parts washer solvent on the manifests used for off-site shipments.</p> <p><b>Observations</b></p> <p>EPA hazardous waste numbers are required to be entered in section 13 on the Uniform Hazardous Waste Manifest. The MSDS provided by ABC Coke shows the parts washer solvent used on-site contains xylene and methanol (both in concentrations above 10 percent) so that when the solvent is spent it is a listed hazardous waste (EPA hazardous waste number F003). The MSDS also shows that the solvent's flash point is 54 °F, which makes the spent solvent an ignitable characteristic hazardous waste (EPA hazardous waste number D001). Manifests provided for shipping spent solvent off-site only list EPA hazardous waste number D039 (toxicity characteristic for tetrachloroethylene) which is not contained on the MSDS for the parts washer solvent used at ABC Coke. The EPA hazardous waste number entered in section 13 for five manifests is D039 (toxicity characteristic for tetrachloroethylene). ABC Coke should have used the EPA hazardous waste numbers of F003 for a listed spent solvent and D001 for ignitable hazardous waste when shipping spent parts washer solvent off-site.</p>	<p><b>Appendix RCRA C – Material Safety Data Sheet for Parts Washer Solvent</b></p> <p><b>Appendix RCRA D – Manifests and Applicable Land Disposal Restriction Notifications</b></p>
6.	<p><b>335-14-9-.00(1)</b> incorporates the federal regulations by reference.</p> <p><b>40 CFR § 268.7(a)(2)</b> – If the waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste must be treated, with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment and storage facility receiving the waste, and place a copy in the file.</p>	<p>The land disposal restriction (LDR) notifications for shipments of spent parts washer solvent do not include:</p> <ul style="list-style-type: none"> <li>- the correct EPA hazardous waste numbers</li> <li>- the applicable subdivisions within the ignitability hazardous waste number</li> <li>- the constituents of concern for EPA hazardous waste number F003</li> </ul> <p><b>Observations</b></p> <p>The MSDS provided by ABC Coke shows the parts washer solvent used on-site contains xylene and methanol (both in concentrations above 10 percent) so that when the solvent is spent it is a listed hazardous waste (EPA hazardous waste number F003). The MSDS also shows that the solvent's flash point is 54 °F, which makes the spent solvent an ignitable characteristic hazardous waste (EPA hazardous waste number D001). Manifests provided for shipping spent solvent off-site only list EPA hazardous waste number D039 (toxicity characteristic for tetrachloroethylene), which is not listed on the MSDS for the parts washer solvent used at ABC Coke.</p>	<p><b>Appendix RCRA D – Manifests and Applicable Land Disposal Restriction Notifications</b></p>
7.	<b>335-14-3-.04(3)(b)</b> – A Small Quantity Generator who does not receive a copy of the manifest with the handwritten signature of	ABC Coke did not submit a copy of the following manifests to the EPA Region 4 Administrator within 60 days of the date on the manifest stating that the facility has not received confirmation of delivery.	<b>Appendix RCRA D – Manifests and Applicable Land</b>

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#	Regulatory Citation	Findings/Observations	Evidence
	<p><i>the owner or operator of the designated facility within 60 days of the date the waste was accepted by the initial transporter must submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the Department.</i></p> <p><b>40 CFR § 262.42(b)</b> – A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days of the date the waste was accepted by the initial transporter must submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the EPA Regional Administrator for the Region in which the generator is located.</p>	<ul style="list-style-type: none"> <li>- May 25, 2010</li> <li>- June 28, 2010</li> </ul> <p><b><u>Observations</u></b></p> <p>ABC Coke is a small quantity generator during the months that spent parts washer solvent is removed from the parts washers for handling off-site.</p>	<p><b>Disposal Restriction Notifications</b></p>
8.	<p><b>335-14-11-.02(4)(a)1. [40 CFR § 273.13(a)(1)]</b> – A small quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonable foreseeable conditions in a container.</p>	<p>Three lead acid batteries were stored outside on a pallet, and they were damaged or missing closure caps. There was no containment located under the batteries. Each battery contained visible liquid that could be leaked.</p>	<p><b>Appendix RCRA A – NEIC RCRA Photographs, Photographs 58, 59, 60, 61, and 62</b></p>
9.	<p><b>335-14-8-.01(1)(c) [40 CFR § 270.1(c)]</b> AHWMMMA requires a permit for the "treatment", "storage", and "disposal" of any "hazardous waste" as identified or listed in 335-14-2...</p>	<p>ABC Coke is crushing fluorescent light bulbs without a RCRA permit.</p> <p><b><u>Observations</u></b></p> <p>ABC Coke crushes fluorescent light bulbs in a small bulb crusher (<b>Appendix RCRA A, Photograph 64</b>). The bulb crusher is equipped with a chain inside a 5-gallon bucket and tube for feeding the fluorescent light bulbs into the crusher. There is no filter or other means to capture any mercury emissions that may be released from the fluorescent bulbs as they are being crushed. A generator is allowed to crush fluorescent light bulbs without a permit as long as: the "treatment does not result in the emission or discharge of hazardous wastes or hazardous constituents into the environment in excess of any standards" [335-14-8-.01(1)(c)(2)(x)(VII)], and the generator complies with training, contingency plan, and weekly container inspections as required in the interim status regulations [335-14-8-.01(1)(c)(2)(x)(VIII)]. ABC Coke does not conduct training for on-site employees regarding the hazardous waste</p>	<p><b>Interviews Appendix RCRA A – NEIC RCRA Photographs, Photographs 64 and 65</b></p>



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#	Regulatory Citation	Findings/Observations	Evidence
		requirements, does not have a written contingency plan, and is not inspecting the bulb crusher.	
<b>Areas of Concern – RCRA</b>			
<b>A.</b>		<p>During months when ABC Coke is classified as a small quantity generator, potential hazardous waste streams are being disposed with the regular plant trash in a non-Subtitle C facility.</p> <p><u><b>Observations</b></u></p> <p>ABC Coke disposes of used aerosol cans and crushed fluorescent light bulbs with the regular plant trash. The plant trash is collected by a contractor who separates the stream into various recyclable streams and material needing disposal. ABC Coke generates more than 100 kilograms of hazardous waste in months when the solvent in the parts washers is replaced with fresh solvent. If aerosol cans and crushed fluorescent light bulbs are disposed of with the regular plant trash in months where the facility is classified as a small quantity generator, then these waste streams are being illegally disposed in a non-Subtitle C facility. No records are kept to show when aerosol cans or crushed fluorescent light bulbs are disposed of.</p>	<b>Interviews</b>
<b>B.</b>		<p>ABC Coke operates at least six coke oven condensate knockout pots that have never been inspected or integrity tested. Coke oven gas condensate can exhibit the RCRA hazardous waste characteristic of toxicity for benzene.</p> <p><u><b>Observations</b></u></p> <p>Coke oven gas condensate is collected in at least six knockout pots. The coke oven gas condensate can contain benzene in amounts higher than the TCLP hazardous waste characteristic level of 0.5 ppm. The coke oven gas condensate pots at ABC Coke are constructed of cast iron (<b>Appendix RCRA E</b>). The pots were installed in the 1920s and 1940s. ABC Coke has not inspected or integrity-tested the coke oven gas condensate pots, and all but one is located underground. The coke oven gas condensate pot located near the little holder is located in a below-grade sump. This condensate pot is equipped with an air pump to remove liquids. The liquids discharge to the dirty water sump. There does not appear to be any mechanism to warn the facility if these underground coke oven gas condensate pots are leaking.</p>	<p><b>Interviews</b> <b>Appendix RCRA A – NEIC RCRA Photographs, Photograph 18</b></p> <p><b>Appendix RCRA E – Coke Oven Gas Condensate Knock Out Pot Drawing</b></p>
<b>C.</b>		<p>ABC Coke operates a surface impoundment as the first treatment unit in its wastewater treatment plant. There is a potential that wastewater containing benzene higher the toxicity limit or exhibiting the RCRA hazardous waste characteristic of corrosivity could be discharged into this surface impoundment, which is not permitted under RCRA.</p>	<b>Appendix RCRA F – Equalization Basin and Post Aeration Basin Drawings</b>

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#	Regulatory Citation	Findings/Observations	Evidence
		<p><b><u>Observations</u></b></p> <p>The influent to the surface impoundment is sampled monthly to determine benzene content. Review of “Benzene Analytical Results for Ammonia Still Discharge” for the time period January 2009 through January 2011 showed the benzene content of the influent stream to be well below the TCLP hazardous waste characteristic level of 0.5 ppm. ABC Coke also samples the effluent of the ammonia stills for pH on a daily basis. ABC Coke provided to NEIC daily pH readings (as well as other operational data for the wastewater treatment plant) in an Excel spreadsheet for the time period January 2008 through April 2011. None of the pH readings were over 12, but several during this time period were over 11.5. Appendix RCRA F contains drawings of the surface impoundment, including construction details.</p>	